been continuing during the night, and which persisted, as already stated, up to the 12th of February.

The points of interest in those cases to which I would direct attention are, the causes of the complaint, its persistent resistance to all medical treatment, and yet its having eventually yielded to so simple a surgical means.—*Dublin Med. Press*, April 29, 1863.

37. *Successful Treatment of Severe Stricture of the Urethra by Gradual Distension at a Single Sitting.*—Mr. HENRY THOMPSON read a paper on this subject, and as there exists much diversity of sentiment in regard to the best mode of treating this affection, we give an abstract of the paper with a report of the discussion to which it gave rise, inasmuch as they present us with the views of the prominent London surgeons on this mooted question.

Mr. Thompson's object was to illustrate and explain a new method of treating severe or obstinate strictures of the urethra. This term is intended to denote those which are a little benefited by dilatation. The distinction which constitutes its novelty does not consist in the mere production of some alteration or improvement in existing mechanical contrivances, but in the adoption of a mode of action on the stricture itself, which is different from those which characterize any of the other systems of treatment pursued at the present day. The author shows in what it differs from dilatation, simple and continuous; from rupture, or "instantaneous treatment;" from cauterization; and from incisions. He illustrates the proceeding, which he distinguishes by the term "gradual distension," and describes the instrument employed to accomplish it. By the process in question, the strictured part of the urethra only is acted upon, and this not to a degree short of, but up to or even beyond the natural calibre of the canal, wherever the stricture may be situated. All this is accomplished at one sitting, but with gentleness and slowness, so as to avoid unnecessary rupture; the degree of distension being regulated with absolute certainty, and its extent indicated with extreme accuracy, by apparatus in the handle of the instrument employed. The object of the operator is not to rupture, but to overdistend the fibrous tissue which constitutes the stricture, so as to destroy, or at all events, to impair, its natural tendency to contract. He aims at attaining that result which occurs from the practice of over-distending vital tissues elsewhere,—viz., to impair or destroy their contractility. This is known to happen after the application of over-distension to both healthy and morbid tissues, and is turned to account by the surgeon for that purpose. The class of patients for which this proceeding appears to be best adapted is described, and illustrative cases are appended. The instrument consists of two long and narrow steel rods, accurately applied throughout their entire length by the single plane surface which each possesses. The external surface of each rod is convex, so that together they form a nearly cylindrical instrument, but tapering towards the lower extremity, where they are closely united. At the opposite or upper end they are also united, and are surmounted by a handle resembling that of an ordinary sound. This handle is attached to a screw with a very fine thread, which being turned causes the two rods to diverge very slowly and very gradually from each other at a given spot, about six inches from the handle. When the separation of the blades is effected, an index placed near the upper end, and connected with some numerals on a disk, shows the exact degree of extension made by pointing out that number of the catheter scale to which the distension existing at that moment is equivalent. The general form and contour of the instrument is that of a slightly curved catheter. When the screw handle is turned, the two rods separate, so as to form a long oval or spindle-shaped figure, the long diameter being about three inches and a half or four inches in length, and the short diameter corresponding to the number of turns given to the screw and varying between the slightest possible separation of the rods and an interval of about three-eighths of an inch, or even more. The stem of the instrument has marked on it a graduation in inches, which commences one-quarter of an inch below the point of maximum distension or centre of the spindle-shaped figure produced by the separated rods. It is that point which will correspond with the stricture when the instrument is placed in the urethra, so that the contracted portion of the canal undergoes the greatest amount of distension which it can be desired to produce, while the rest remains wholly unaffected. The mode of applying the instrument is as follows: A medium or full sized bougie or catheter is first passed as far as to the stricture, and the distance from it in inches to the external meatus carefully noted. Suppose it to be five inches, the operator, taking the distending instrument, places the little blue steel collar which slides on its shaft opposite to the figure 5, and passes the instrument through the stricture until the collar arrives at the meatus of the urethra, and prevents the instrument from entering further. The maximum point of distending power must therefore correspond with the narrowest part of the stricture. The act of distension is now commenced by making two or three turns of the screw-handle, and is continued by slowly turning it once every half minute, taking care at the same time to prevent the instrument from shifting its position, by observing that the collar remains opposite the external meatus. In a short time the index, gradually rising, shows that the calibre is reaching Nos. 10, 11, 12, and so on, until in a few minutes No. 14 or 16 has been reached, which latter limit is usually quite sufficient. The screw-handle is now slowly turned backwards, not the whole way, but until the index has retreated to about No. 8 or 9 when the instrument is withdrawn. The operator next passes a full-sized gum-catheter into the bladder, and fastens it there, leaving it in place for about twenty-four hours. It is then removed altogether. All that remains to be done is to pass a full-sized metallic instrument every second day for a week, and after that at increasing intervals for a week or two longer.

Mr. Holt said that his mode of operating having been alluded to by Mr. Thompson, he was desirous of offering a few remarks upon the plan which that gentleman had proposed to the society, as contrasted with that which he (Mr. Holt) had adopted for some years. Mr. Thompson's instrument differed materially from his, both in the method of its application and its capability of enlarging the strictured portion of the urethra, and he claimed for his instrument the power of dilating the stricture to No. 14 or 16, while the meatus is not interfered with. For its application, however, it was necessary a gum-elastic catheter should be retained in the urethra for two or three days. It was then removed, and the seat of the stricture accurately ascertained by passing a large bougie. This is to be marked, and such measurement is to regulate the distance which his dilator should be introduced. The patient being now placed under the influence of chloroform, the dilator was passed, and the handle slowly and gradually turned, so that dilatation could be effected to any extent, the whole operation occupying from ten to twenty minutes, according to the character of the obstruction. The dilator was now removed, and a No. 12 gum-elastic catheter substituted, and retained in the bladder for two or three days, according to circumstances. A No. 12 bougie was afterwards passed at intervals of a day, and so the after-treatment was continued as in any other plan. Now, his (Mr. Holt's) first objection to this method of treatment applied to a difficulty which might arise in the hands of a surgeon less accustomed to the passing of bougies than the author of the paper. The penis during an examination alternates in its length, and is at one moment quiescent and at another semi-erect. When this occurred, it would so alter the relative measurements as to render them of little value; and this part of the treatment was of great practical importance, inasmuch as it was necessary that the centre of the dilating power should exactly correspond to the centre of the stricture, and without it the dilatation would be either in front or behind the obstruction, and so be perfectly ineffective. His next objection would apply to instances in which there was more than one obstruction; for in his experience there were frequently two, and sometimes three or even four obstacles to be overcome, and in these instances it would be necessary to materially prolong the operation, or repeat it upon three or four separate occasions. Mr. Thompson laid particular stress upon his capability of dilating the stricture to No. 14 or 16 or more, when the meatus will only admit a No. 12. In the first place, he (Mr. Holt) believed the author was in error in supposing that a dense obstruction would allow itself to be dilated to the size he mentioned; it must be ruptured, as was shown by the occurrence of hemorrhage. But even granting that it was so, he (Mr. Holt) could not see the least advantage that could arise from dilating a stricture beyond that which could be maintained by the after-passage of a bougie. The part which was so dilated quickly contracted, otherwise there would not be any necessity for the after-passing of the bougie; but as this was necessary, and the bougie could only represent the size of the meatus, no advantage could accrue from distending the stricture beyond its natural limit. If any further proof were required that this was so, he might refer to the median operation of lithotomy, which he had frequently performed, and removed, without cutting the neck of the bladder and prostatic portion of the urethra, calculi varying from an inch to an inch and a quarter, the parts being dilated by the introduction of the finger, the subsequent passage of the forceps, and the extraction of the stone. In all these cases the patient had retained the power of expelling the urine at will, which specially showed how speedily any undue dilatation of the urethra contracts again. His (Mr. Holt's) third objection would apply to the necessity of retaining a catheter in the bladder both before and after the operation had been performed. In many instances the patients were quite incapable of bearing the retention of a catheter, from the pain and irritative fever it produced, and it confined them to the house or bed for an unnecessary period of time. Mr. Holt then related a remarkable case of irritable and intractable stricture, in which, after all the usual means employed for a long period had failed in the hands of an experienced surgeon, he had, in a few minutes, split up the stricture with his instrument, and the patient recovered without a bad symptom, and remained well to this time—a period of twelve months. Were he not afraid of occupying too much of the society's time, he could relate several most interesting cases to prove that he had not made any selection for the purpose of enhancing the success of his operation; but that, on the contrary, he had operated upon the most severe and complicated examples that could be submitted to the surgeon. Two other cases he would briefly allude to. One was that of a gentleman from Liverpool, who consulted him for incontinence of urine, from which he had been suffering for two years, during which he was compelled to wear a urinal, and his health was so damaged that he was recommended to go to Madeira for a change. Upon inquiry, Mr. Holt was satisfied that the bladder was full, and, having gained the patient's consent to introduce a catheter, he, with great difficulty, passed a half No. 1, and removed three pints of most offensive purulent urine. His bladder was paralyzed, and there was every probability, from the length of time it had been distended, that the ureters and the pelves of his kidneys were abnormally enlarged. For the purpose of keeping the bladder empty, the catheter was introduced three times during each of the first two days, and upon the third he passed the dilator and split the strictures, so that the urethra would admit a No. 10 catheter. In one month this gentleman returned to Liverpool, with his health almost entirely re-established, passing urine with the greatest facility, and the urethra admitting a No. 10 easily. During the last month, Mr. Cutler asked his (Mr. Holt's) opinion upon the case of a gentleman who had been operated upon by Mr. Syme. The patient had subsequently been subjected to internal division, and a second time Mr. Syme's operation was performed by Mr. Bickersteth, of Liverpool. When he consulted Mr. Cutler, he was obliged to pass the catheter five or six times in the twenty-four hours, and he was entirely prevented, by the escape of urine during the intermediate periods, from entering into society. Mr. Holt, having explained to him that in such a case he could not positively affirm what the result might be, consented to split the obstructions; but the patient, being exceedingly nervous from the recurrence of rigors after every attempt to enlarge the urethra, would not consent to the operation without the aid of chloroform. The dilator having been passed, it required all the force Mr. Holt could make use of, even with a towel placed over the large extremity of the tube, before the stricture could be split. Upon the dilator being removed, a No. 10 catheter was passed, and the bladder emptied. This gentleman never had a bad symptom of any kind or description; he never even went to bed, and in two days was able to visit some friends in the country. He declared that he could now pass urine better than he ever remembered; and in a fortnight he returned to Jersey, being capable of introducing an instrument himself without the least difficulty or pain. Mr. Holt stated that he had now operated, in hospital and private practice, upon more than 250 cases, without any complication of either infiltration of urine, abscess, swelled testes,or inconvenience of any kind, further than the occasional supervention of a rigor or mild attack of stricture fever. He must therefore still retain his opinion in favour of his instrument, which had now been tested to the utmost. It was perfectly simple, and capable of being used by any surgeon who was able to pass a catheter. The operation did not require either the previous or after retention of a catheter in the bladder; it was completed in one second, however many obstructions there might be; it did not, excepting in very severe cases, require the administration of chloroform, and the patients were not confined to the house longer than the afternoon in which the operation was performed; the pain was of the most trifling description, and the danger *nil.* He would only detain the society another minute in describing the improvement he had lately made in the dilator, and which had been only completed that day. The objections raised to it by some surgeons were, that in its present state you had no positive evidence when you were in the bladder, and that the tube might possibly slip from between the blades. He had now so improved upon this that it was quite impossible the tube could so escape, and the dilator acting as a catheter permitted the flow of urine. He had no hesitation in declaring that, as now manufactured by Messrs. Whicker and Blaise, of St. James's Street, the dilator was as perfect as any instrument could possibly be.

Mr. Solly was pleased at any proceeding which showed the advantage of dilatation over cutting in the treatment of stricture. He contended that if an instrument could once be passed into the bladder, cutting was unnecessary. There might be cases in which it would be impossible to succeed in such an effort, and then incision might become requisite. He had never had recourse to the plans recommended by Mr. Thompson and Mr. Holt, but had been in the habit of adopting a modification of Mr. Wakley's plan, previously resorted to by Hutton, of Dublin. He used a catgut bougie instead of the metallic guide, and elastic catheters instead of the silver ones. He had used this plan of gradually dilating the urethra with much success. In hospital patients he allowed the catheter to remain in the bladder for some time, but not more than half an hour in private practice.

Mr. Fergusson said it had been proved that dilatation of the urethra might be effected, even to the extent of a No. 12, 14, or 16 catheter in a few minutes, without risk, and effectually. The mode now adopted for this purpose differed entirely from what was called "forcing down a stricture" by the introduction of a full sized catheter. This was not unattended with danger; for it was not always possible to tell where the point of the instrument would go, or to what extent the urethra might be damaged. By the mode employed by either Mr. Thompson or Mr. Holt, no such risk was incurred. He (Mr. Fergusson) thought the plan mentioned by Mr. Solly would not be found so effective as when the silver instruments were used. With regard to Mr. Thompson's instrument exhibited that evening, he questioned if it were strong enough to break up the stricture without breaking the instrument in some of the more severe cases. This could not occur when Mr. Holt's plan was resorted to; however great the force applied, the instrument could not give way. So much force was occasionally required, that he (Mr. Fergusson) should be fearful of trusting to Mr. Thompson's instrument. This instrument. as far as the plan of treatment itself was concerned, did not differ much from that of Mr. Holt. The plan of immediate dilatation would do much towards dispensing with internal and external urethrotomy.

Mr. Acton was glad to hear that the advocates of the various plans for treating severe forms of stricture had not found cause for disparaging that by internal incision, a treatment he had found most successful. It was admitted on all hands that dilatation, consistently persevered in, was alone sufficient to remedy the greater portion of strictures. In hospital practice (in order to save the time of the poor) it might be necessary to resort at once to other plans; but, among the upper classes, where a rapid cure was not of such importance, the patient usually objected to have his stricture split, or any other similar heroic remedy employed, and which he (Mr. Acton) was glad to hear was unattended with any danger. The Fellows of the Society must, however, recollect—and the shelves of the surrounding library would support the statement—that the advocates of every novel treatment of stricture had ever lavished the same praises on their different systems as had been listened to that evening. Time could alone test the value of the rival schemes; but he was not inclined to think that any one system would be found applicable to all cases. It had been stated in the course of the discussion, that within a short period, and in the practice of one surgeon, 250 cases of stricture had been split. Now, seeing the comparative rarity of cases requiring such treatment, we must believe that many strictures had been split which would have been treated (by other surgeons) by more simple means. The author of the paper had spoken of the success of his treatment depending "upon over-distension of the fibrous tissue, so as to destroy, or at all events impair, its natural tendency to contract." He (Mr. Acton) was yet to be convinced that over-distension at one sitting would accomplish this very desirable end; for the more he treated stricture, and the more he studied the structure which composed the India-rubber-like mass we had to distend, the less disposed was he to believe in a rapid cure, or that a healthy structure would at once displace this elastic tissue. Stress had been laid during the discussion by more than one speaker on the advantages of his or their operation as succeeding after others had been tried and failed. Mr. Acton would appeal to the practical Fellows of the Society if cases were not brought under their notice of patients who had been condemned to these heroic operations, and who before submitting to them applied for a second opinion, and who were cured by dilatation alone, showing that the operation that had been recommended was at least unnecessary. When dilatation was unable to effect a cure, internal incision came in most opportunely, and the division of the elastic tissue by the knife enabled the surgeon to pass his instrument, and cure the stricture. This, he maintained, was the more scientific treatment, and more in accordance with all the theoretical and practical principles of surgery, and one which had been gradually gaining ground since the instruments employed had been perfected.

Mr. HULKE had employed Mr. Holt's plan in thirty cases, many of which were out-patients at the hospital. He had never seen any untoward result, though the patients went about as usual. He did not regard it as a serious operation.

The PRESIDENT had in many cases followed Mr. Holt's plan of proceeding. He had never seen any but good results from it.

Mr. THOMPSON replied *seriatim* to objections raised by Mr. Holt. First, that there was no difficulty in measuring the distance at which a stricture was situated from the meatus in order to adjust his instrument, and that no man who found that a difficulty was competent to use an instrument in the urethra at all. It was, indeed, an ill compliment to surgeons to imagine want of ability to accomplish so easy a matter. Secondly, that it was not often necessary to apply the instrument for two strictures in the same urethra, but if there were two, no difficulty in applying it twice existed. Thirdly, that although it had been his practice to tie in a gum catheter twenty-four hours afterwards, he did not regard it as necessary; he had done so as a precaution, and if any objection to this existed, it would be as safe to dispense with it here as after Mr. Holt's operation. From the remark, that there was no advantage in distending to No. 16, if the bougies subsequently passed could not exceed No. 12, he differed very widely. It had long been admitted to be a desideratum to find some means of dilating the stricture to the size of the canal where it is situated, and it is notorious that the bulbous portion, where stricture most commonly exists, is little more than half dilated by a bougie which fills the external meatus. The subsequent dilatation by such a bougie sufficed, but if thought necessary it might be maintained by the distending instrument itself which formed an excellent dilator. He had a patient at this moment who preferred it to a bougie for ordinary use. Again, it had been assumed on theoretical grounds that its power was deficient. He could only say that in practice the instrument had resisted very severe tests, and was amply strong enough for its purpose; but he would say again, as he had said in the paper, that where the induration surrounding the urethra was very considerable, involving, possibly, the substance of the corpus spongiosum throughout, especially when anterior to the scrotum, incision was more likely to be permanent in its effects than either his own or Mr. Holt's method. He agreed with Mr. Acton that this was highly useful in some cases. An important distinction existed between forcible catheterism and distension, which had been well drawn by Mr. Fergusson; the dangers of that now happily exploded method resulted from tearing away the stricture from its connections, and driving it down the urethra. Simple expansion from within outwards, provided it was thoroughly efficient, had now been proved to be unattended with danger. Finally, it was most satisfactory to him to hear from Mr. Holt and others the success which had attended his operation, because in some particulars it was closely allied to his own proceeding; thus, he contended that Mr. Holt's operation might be perfectly performed with his (Mr. Thompson's) instrument, but that the latter possessed in addition these two advantages—first, power to carry the distension to a much higher point; and, secondly, that it could be done gradually and slowly, so as to over-distend the tissues as much, and rupture them as little as possible. It was on these two grounds of difference that he claimed for this proceeding an examination and a trial, since he conceived them to constitute an improvement of no mean value.—*Med. Times and Gaz.*, May 2, 1863.

38. *Observations on Ovariotomy, etc., Statistical and Practical; also, a Successful Case of Extirpation of both Uterus and Ovaries.*—Dr. Clay gave to the Obstetrical Society of London (March 4, 1863) a brief and interesting outline of his experience on this very important branch of surgery. Of 109 peritoneal sections, of which 104 were for ovarian extirpation, 3 for cutting down upon the tumour to establish ulceration where its removal was known to be impracticable, 1 for the Cæsarean operation, and one for the removal of both uterus and ovaries. Of the 104 ovarian cases, 72 recovered, 32 died; all the 3 ulcerative cases recovered; the Cæsarean section lived to the fifteenth day; and, lastly, the case of entire removal of both uterus and ovaries recovered. Of the 32 deaths, 10 died from the immediate consequences of the operation, 10 from inflammation, 10 from prostration, and 2 from hemorrhage. The great majority of the first and second series were young females, as well as a portion of the third division. Those from prostration were chiefly elderly females. Some other statistical facts were elicited, as well as the following remarks from the author: Dr. Clay still defends the raised temperature of the room for operation, and attributes much of his success to its influence; is not certain if chloroform has added anything to the successful results, although he values it highly as an agent which it would now be difficult to lay aside, although the first fourteen of his cases were performed before it was discovered, and of which nine recovered; and he still thinks, if a woman could face the difficulty without it, it would be in her favour. The large incision is still practised by him, and deemed far preferable to the smaller opening. Of course, the author wished to be understood that the incision was to be commensurate with the tumour to be extirpated. Dr. Clay gave many reasons for this preference. The distressing vomiting he conceived to be in a great measure owing to the use of chloroform, as he saw but little of it in the first fourteen cases where it was not used. For this troublesome symptom he advises patience until the blood has got rid of its load of carbon, the simplest of drinks, and as little food as possible. Some very well ascertained facts of critical days were adduced, which would require too much space to dwell upon; suffice it to say, the third, sixth, and ninth were the principal, and the causes of each were pointed out. No particular age seems to be prominent in respect to the success of these cases. Dr. Clay himself stated them to be about equally successful at all ages from sixteen to fifty-seven. Purgatives are not admissible; and he relies on enemas, with ox-gall, etc. This part of the paper was concluded by some interesting remarks on ovariotomy for the last twenty years, and the difficulties the author had to encounter, not the least of which was misrepresentation. The author next gave in detail a new and interesting operation, which he believed to be the first of its kind, successful at least, in this country—namely, the entire extirpation of the uterus and its ovaries through the abdominal walls, which has ended most fortunately, the lady returning to her friends on the thirty-fifth day after the operation, and still continuing well, thus establishing another great fact in reference to abdo-